

**LAB Group Work** Energy of Position

**Question** How does height affect potential energy?

**Procedure**

1. Make a stack of all 6 textbooks. Set one end of the track on the books and one end on the floor, to make a hill. Tape the track to the floor.
2. Measure the height of the stack of books. Record the height in the data table below.

Books	Height of books (in centimeters)	Distance traveled (in centimeters)
6		
5		
4		
3		
2		
1		

**Materials**

- toy car
- 6 textbooks
- tagboard or foam board for track
- meter stick or tape measure
- masking tape

3. Put the car at the top of the hill. Let it roll down the hill. Do not push it.
4. Measure the distance from the bottom of the track to the place where the car stopped. Use centimeters.
5. Record the distance you measured. Remove one of the books.
6. Repeat steps 2–5 five more times. Use the data table to organize your data.

**Analysis**

1. Interpret your data. What happened to the distance the car traveled as you removed books from the stack?  
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2. How did the height of the books affect the car's energy? When did the car have the most potential energy? Write your **conclusions**.  
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